

Chapter 2: Diversifying the Fisheries

King (Chinook) Salmon: The Fish and the Fishery

In 1933, the Bureau of Fisheries amended its regulations to allow trolling for salmon in Glacier Bay.⁹⁶ Trollers generally target high-value salmon that are handled individually and sold for a premium. The Glacier Bay troll fishery has been and remains almost completely focused on catching king salmon.

Also known as Chinook salmon, king salmon (*Oncorhynchus tshawytscha*) are the largest of the Pacific salmon, commonly exceeding 30 pounds.^J Their range extends from the central California coast around the Pacific Rim to Japan. King salmon spawn in fresh water streams during late spring and summer, with each female depositing 3,000 to 14,000 eggs in gravel “redds” excavated with her tail. The male fertilizes the eggs as they are deposited, after which the female fans gravel over them with her tail to bury them for protection until they hatch in late winter or early spring. Only 34 rivers in Southeast Alaska are known to support king salmon.⁹⁷ There are no documented spawning populations in Glacier Bay. Juvenile king salmon generally spend two years in the stream before migrating out to sea, where they will feed for about two to five years before returning to their natal stream to spawn and complete the cycle. While at sea, king salmon feed on a variety of fish and crustaceans.⁹⁸ Herring seem to be a favorite.

The king salmon caught in Glacier Bay are “feeders”—fish that are actively feeding and not enroute to their spawning stream. Feeders are considered higher quality than “spawners” because the latter have quit feeding and begun depleting their reserves of fat. Overall in Southeast Alaska, about 90 percent of the king salmon caught are of the red-meated variety (“reds”). The remaining 10 percent (“whites”) have white meat, a condition thought to be due to a genetic factor. In Glacier Bay, however, about 40 percent of the king salmon caught are of the white-meated variety, which is extraordinary. Solely because of their appearance, white-meated kings are worth less on the market than

red kings, although they sometimes command a premium in specialty markets.

Current management of Alaska’s troll king salmon fishery is by pre-established quota under the Pacific Salmon Treaty with Canada.^K Traditionally, the summer trolling season begins on July 1 and ends on September 20, with king salmon fishing ending when the summer season quota was reached. The winter king season, with its own quota, traditionally began October 1 and continued until April 15, but in 1992 the opening was changed to October 11.

Troll-caught king salmon are usually sold “dressed,” (with the viscera and gills removed). The fish are dressed shortly after being caught, and either packed in flake ice or “slushed” in a thick mixture of ice and saltwater. Alaska Department of Fish and Game regulations that have been in effect for at least the last thirty years do not permit the retention of troll-caught king salmon less than 26 inches long. Though the body conformation of king salmon vary considerably, the live weight of a just-legal fish would be about 11 pounds, the dressed weight about 9 pounds.

The commercial salmon troll fishery on the U.S. West Coast began in the vicinity of Ketchikan during the winter of 1904–1905, when large schools of king salmon were observed feeding on herring. The fish were mostly located in shoal waters where nets could not be employed, and fishermen, both white and Native, began catching them from canoes by towing (“trolling”) artificial lures (usually nickel spoons) or hooks baited with herring through the water. Buyers from Ketchikan sent tenders to collect the fish, which averaged about 25 pounds in weight. The price was 50 cents each for red-meated king salmon and 25 cents for the white-meated variety. The fish were packed in ice in wooden boxes and shipped by scheduled steamer to Puget Sound ports. Total production that season was 272,000 pounds.⁹⁹ As well as for the fresh market, large, red-meated kings were

^J The record (live weight) is 126 pounds. The largest the author knows of being caught in Glacier Bay weighed 65 pounds.

^K By regulation, commercial trolling for salmon is limited to southeast Alaska, including the Yakutat area.



Figure 10: Salmon troller *Grace* in Muir Inlet, 1937. (courtesy Gustavushistory.org)

soon sought for “mild cure”—lightly salted salmon fillets that were to be smoked, mostly in Germany.¹⁰⁰

By 1913 power boats were coming into favor for trolling, and both king and coho salmon were targeted. Government fishery managers initially looked with disfavor upon power trollers, and some advocated prohibiting them in Alaska waters. Because they trolled faster than hand trollers (at that time these were paddle or oar-powered boats), their gear was closer to the surface and tended to catch smaller, less-marketable fish than hand trollers, who fished close to the bottom where large king salmon were thought to dwell. Also, because they were unable to “play” fish, power trollers were thought to lose many hooked fish that would die afterwards. Hand trollers, on the other hand, hooked larger salmon and, because they were able to play them, lost fewer. Moreover, hand trolling was looked upon favorably by the government officials as “a fishery in which the individual of small means can find his opportunity.”¹⁰¹ All that was required was a rowboat and troll line. This was especially important in rural Southeast Alaska, where jobs were not plentiful. Eventually all trolling boats came to be engine-powered (see Figure 10).

In 1913 the Bureau of Fisheries issued 398 hand troll permits and 34 power troll permits.¹⁰² By 1925, however, power trolling produced the bulk of the catch.¹⁰³ In 1927 an unprecedented 45,000 king salmon were caught in Icy Strait, mostly by trollers.¹⁰⁴

Save for a dazzling array of electronics, modern trollers are not dramatically different than those used 80 years ago. (see Figure 11) The diesel-powered vessels are usually 25 to 50 feet long and are fished by owner-operators, sometimes with the assistance of a deckhand. The vessels are fitted with outrigger-like wooden or aluminum trolling poles. Small hand or hydraulically-powered winches called “gurdies” mounted near the stern hold stainless steel trolling wire that is routed through “donuts” fastened to taglines that are in turn fastened to each trolling pole. (This arrangement keeps the lines from tangling.) At the end of each trolling wire is a lead “cannonball” usually weighing between 15 and 40 pounds. At intervals above the cannonball are snapped as many as a dozen individual leaders about six feet long and ending at a hook baited with herring or an artificial lure.¹

The terms power troller and hand troller have persisted, but their connotation has

¹ A small electrical charge is generated on the trolling lines as the vessel passes through the water. The wrong charge will repel fish. An electronic “black box” device is often attached to the gurdies to ensure that the proper charge is maintained.



Figure 11: Modern salmon troller *Apollo*, owned and operated by Fred Howe, son of former Glacier Bay Superintendent Bob Howe. (NPS collection, Bartlett Cove, Alaska)

changed. Power trollers utilize hydraulic power to operate their gurdies, and in Glacier Bay they can use up to four trolling lines. Hand trollers crank their gurdies manually and can use two trolling lines. Some hand trollers very effectively use sport poles to catch king salmon, particularly when the fish are in shallow water.

A 1933 Bureau of Fisheries regulation that allowed trolling in Glacier Bay was amended the following year. The new regulation prohibited all commercial fishing for salmon north of 58 degrees 27 minutes 54 seconds north latitude, which was a line that ran approximately from the south end of Young Island to Rush Point on the west side of Glacier Bay (see Figure 9).¹⁰⁵ Bartlett Cove was south of this line, and thus open to salmon trolling. This regulation seems to have been ignored by trollers, and in 1941 it was changed to allow trolling for salmon in all of Glacier Bay.

Al Martin, of Hoonah, recalled that his father, James Martin, towed handtrollers into Glacier Bay with his seine boat, the Tlingit, in the late 1930s. Beartrack Cove and South Sandy Cove were some of the areas fished. The fishermen fished during the day and returned to the seine boat to ice their catch (with glacier ice) and eat and sleep. Their equipment was extremely simple: a rowboat and a handline.¹⁰⁶ Frank Been, superintendent of Mt. McKinley N.P. and in charge of Glacier Bay N.M., inspected Glacier Bay for most of the month of

August in 1939. He observed an “occasional” troller entering the bay.¹⁰⁷ Been spent some time at Glacier Bay during the following year, and observed at least one troller, Eli Sharclane, of Hoonah, coming out of either Glacier Bay or the Beardslee Islands.¹⁰⁸ Fishing vessels were then the chief form of transportation in Southeast Alaska, and there is no evidence that these were actually trolling.

Halibut: The Fish and the Fishery

Pacific halibut (*Hippoglossus stenolepis*) range from the Bering Sea to California. They are flat fish with both eyes on the upper side. The “blind” (underside) of a halibut is white, while the color of its upper side depends on the coloration of the ocean bottom, and ranges from olive to dark brown, with an irregular mottling of lighter color. This coloration serves to hide the fish from both predator and prey. From below, the white underside appears as the sky, while from above the fish’s coloration makes it appear to be part of the ocean bottom.

Halibut may live to be more than 40 years old; they can be more than 8 feet long and weigh more than 400 pounds. Nearly all halibut over 125 pounds (live weight) are females. The live weight of commercially caught halibut generally ranges from about 14 pounds to 200 pounds. From the author’s experience, the average live weight of commercially-caught halibut from Glacier Bay was about 38

pounds. A fish that size would have been about 12 years old.

Halibut generally spawn in deep water (100 to 250 fathoms) along the edge of the continental shelf during the winter months. The number of eggs produced by a female halibut is related to its size, and ranges from 500,000 for a 65-pound fish to 4,000,000 for a fish in the 300 pound range. Eggs are externally fertilized and develop into larvae and then small halibut while floating freely in the currents for up to six months.^M Most male halibut reach sexual maturity by the time they are eight years old. For females the average age of sexual maturity is about twelve years. Until the age of about ten years, halibut are highly migratory. Older halibut are much less so, and may exhibit fidelity to a certain location.¹⁰⁹

Halibut are voracious and very opportunistic carnivores that feed on a wide variety of fish and shellfish.^N These include cod, pollock, herring, sculpin, crab, and even clams. During the summers of 1991 and 1993, the stomach contents of a total of 205 halibut caught by sport fishermen in Glacier Bay were analyzed. Only 81 had food in their stomachs, but this seemingly low number may have been due to halibut regurgitating their stomach contents in the struggle against the fishermen. Crabs were the most frequently occurring prey group.¹¹⁰ Sculpins are very abundant in some locations in Glacier Bay, where they seem to be a favored food of halibut.¹¹¹

Halibut are usually sold to processors “headed and gutted.” Shortly after halibut are caught, fishermen “dress” them by removing the viscera and gills. The fish are then packed in flake ice or placed in slush ice. To prevent additional flesh from being exposed, halibut heads are not removed until the fish are delivered to a processor.

Halibut is sold fresh or frozen, mostly on the domestic market. The meat is firm, off-white in color, and contains little oil. Its relatively mild taste lends itself to use in a wide variety of dishes.

The commercial halibut fishery in Southeast Alaska began after the completion of the transcontinental Northern Pacific Railway’s direct route to Puget Sound in 1888. Stocks of Atlantic halibut (*Hippoglossus hippoglossus*)

were declining due to overfishing, and to make up the shortfall on East Coast markets, Puget Sound businessmen began shipping iced Pacific halibut across the country in refrigerated freight cars. Boats tended to fish the ocean waters off Cape Flattery, Washington during the relatively calm summer months, then move to the inside waters of Southeast Alaska during the winter. The waters of British Columbia were off-limits to U.S. fishermen.

Halibut fishing was done from dories that were transported to the fishing grounds aboard schooners of various sizes (see Figure 12). The schooners generally carried from one to three dories, with two men to operate each dory. The fishing gear consisted of a buoy keg (wooden barrel), buoy line, and anchor, to which were fastened the end of a “groundline” of tarred hemp or cotton. Fastened to the groundline at approximately 15-foot intervals were 5-foot “gangions” of lighter tarred cotton line, each with a hook on the end. A section of groundline 350 fathoms (2,100 feet) in length constituted what fishermen called a “skate”. Salted herring was the preferred bait.

Upon reaching the fishing grounds, the schooner would distribute its dories in favorable locations and “lie to.” In fishing from the dories, one man rowed while the other tossed the buoy keg, buoy line, and anchor overboard. The attached skate of gear, with its baited hooks, was then carefully paid out. A second anchor was attached to the end of the skate.^O Dorymen in northern Southeast Alaska circa 1907 usually fished five to seven skates during the summer, each of which was set twice each day. During the winter the amount of gear employed was reduced by about a third and was set only once per day.

In the course of a full-day’s fishing, the gear was usually set at daybreak. It was allowed to “soak” for from one to several hours, then hauled, sometimes with the help of a “hurdy-gurdy” (small windlass). As halibut reached the surface, they were gaffed, hit on the head with a club, unhooked, and pulled into the dory. Fishermen were generally paid by the owner of the vessel on a crew-share basis, but some were paid on a per-fish basis. A representative price in 1907 was 27 cents for each fish 15 pounds and over; fish less than 15 pounds counted 3 for 1.¹¹²

^M The author once caught a halibut in relatively shallow water in Glacier Bay in May that released its eggs upon being landed.

^N The author once caught an 80-pound halibut that had a rock the size of his fist in its stomach.

^O Often two or more skates were tied together end-to-end to form a “longline.”



Figure 12: Dory fishermen with load of halibut. In Southeast Alaska during the early 1900s, halibut were usually fished from dories tended by a larger vessel. (Joe Williamson Maritime Photographic Collection, Puget Sound Maritime Historical Society, Seattle, Wash.)

The 90-foot sailing schooner *Oscar & Hattie* was likely the first commercial halibut vessel to travel to Glacier Bay.^p It did so in 1888, not to fish, but rather to obtain a supply of ice, which was in those years sometimes more valuable than halibut. In the process of getting ice, the *Oscar & Hattie* broke two booms, which forced a repair stop at Sitka while enroute to the fishing grounds at Dixon Entrance, some 300 miles south of Glacier Bay.

The commercial halibut fishery in the Icy Strait region began about 1897 when a cannery steamer began fishing halibut after the salmon season had ended. The effort over the winter proved profitable, and the captain of the steamer continued fishing the following winter. Several additional steamers and a number of small sailing vessels were added to the winter fleet, and as the demand for halibut increased the fishery was expanded to all seasons of the year.¹¹³

Fishermen furnished their own ice, which, as with the *Oscar & Hattie*, was often secured from icebergs. Their catch was delivered to buying stations where it was packed in ice in wooden boxes holding 500 pounds of fish, then shipped to Puget Sound ports via the scheduled steamships that served Southeast Alaska.¹¹⁴ Southeast Alaska's main buying sta-

tion was at Scow Bay, just south of Petersburg, which was on the main steamship route and enjoyed a supply of ice from LeConte Glacier. Smaller buying stations were scattered throughout the region. At Hoonah in 1904, S. J. Kane, manager of the Hoonah Fish Co., reported that his business was organized primarily for halibut fishing.^q¹¹⁵ Icy Strait was considered by the Bureau of Fisheries to be one of the "chief centers of abundance" for halibut in Southeast Alaska, with "good banks ... scattered all over" the strait.¹¹⁶ A 1905 Bureau of Fisheries list of the principal halibut buying stations in Southeast Alaska included Hoonah.¹¹⁷

In addition to its value to the schooners and steamers, halibut was considered by the federal government to be "a most valuable and reliable resource for poor men."¹¹⁸ This included white fishermen as well as Natives who, with little investment, could use hand lines to fish for halibut.

In 1905, the Bureau of Fisheries reported that Native handliners were still using traditional halibut hooks "of a very primitive but quite effective shape (see figure 2)."¹¹⁹ Two years later the Bureau reported that Native dory fishermen in the "upper portion" of Southeast Alaska employed traditional wooden hooks that were sometimes

^p John Muir, who had made Glacier Bay famous, was still exploring it two years after the *Oscar & Hattie's* visit.

^q *Hooniah* was an early alternative spelling of *Hoonah*.

elaborately carved. The hooks were fitted with a “metal tip”.¹²⁰

Around 1905, sailing schooners began converting to gasoline engines. The conversion, which crowded out the steamers, was pretty much complete by 1910.¹²¹ The actual fishing was still done from dories, but this too was rapidly evolving.

Stormy weather, during which it was too rough to work safely from dories, occurred often during the winter months. To gain more fishing time, halibut fishermen during the 1913 season began to abandon dory fishing in favor of fishing from power vessels of a size that could endure moderately heavy weather. With the boat running ahead, the crew, which generally ranged from four to six men, set the halibut gear over a chute on the stern. A “power gurdy,” a winch-like device that operates off the boat’s engine or an auxiliary engine and is usually mounted about amidships on the starboard side of the boat, was used to retrieve the gear. The number of skates of halibut gear fished by individual boats ranged from 12 to 70.^R Skates were usually fastened end-for-end into longlines that could be miles long. The longlines were anchored and buoyed at both ends. By the mid-1920s, dory fishing was practiced by only a few vessels.¹²²

The halibut industry in Alaska expanded so fast that by 1914 it was second only to the salmon industry. Pacific waters supplied fully 85 percent of the nation’s halibut, the bulk of which came from Alaska. Unfortunately, overfishing was taking its toll on the resource in Southeast Alaska. There were calls for closing the halibut fishery to rebuild the stocks, but a closure in Alaska without a concurrent closure in British Columbia would have left the entire market to the Canadians. The proposals were rejected as constituting an unacceptable hardship on Alaska fishermen.¹²³

By 1923, the halibut fishery was in such a steep decline that representatives of the industry asked for international control. On March 2, 1923 the United States and Canada signed the Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean. It was the first international treaty for the regulation of a fishery, and it established closed seasons for halibut fishing. The enabling legislation specified that halibut regulations in U.S. waters would be enforced by the Coast Guard, Customs Service and Bureau of Fisheries.¹²⁴

There was likely very little, if any, halibut fishing occurring in Glacier Bay when Glacier Bay N.M. was established in 1925. Out-of-season (illegal) fishing for halibut in Glacier Bay was reported by the FWS in 1941.¹²⁵

Dungeness Crab: The Crab and the Fishery

Dungeness crab (*Cancer magister*) are true (Brachyuran) crab that inhabit coastal waters from Baja California to the Aleutian Islands. The principal U.S. Dungeness crab fisheries are concentrated in Washington, Oregon, and northern California (see Figure 13).

A large male Dungeness crab may weigh four pounds; a large female less than half that. Commercial quantities of Dungeness crab are usually found in water less than 30 fathoms deep. Dungeness crab do not migrate long distances. They forage along the sea floor for a variety of organisms that live partly or completely buried in sand or mud. These include shrimp, mussels, small crab, clams and worms. Dungeness crab also scavenge recently dead fish. Dungeness crab are prey species for halibut as well as sea otters.

Male crab, which are polygamous, mate only with females who have just molted, which is usually in the early summer. A large female may carry as many as 2.5 million fertilized eggs beneath her abdomen until they hatch the following spring. Dungeness crab larvae are planktonic (float with the currents), and over about five months pass through several larval stages before metamorphosing into tiny replicas of adults. Sexual maturity is reached at about three years of age, and the estimated life span is between eight and thirteen years.

Dungeness crab are caught in cylindrical pots (traps) that are about 12 inches high and range from about 36 inches to 60 inches in diameter. The pots normally weigh between 40 and 80 pounds. The pot frames are made of ¾-inch diameter round steel stock wrapped with strips cut from rubber of the type used in inner tubes. The frame is then covered with stainless steel wire mesh woven in 2-inch squares. On opposite sides of each pot are a pair of oval entrance tunnels fitted with one-way gates (“triggers”) that close from the inside to prevent crab from escaping. Two 4 ⅜-inch inside diameter escape rings allow sub-legal male and most female crab to escape. Half of the top of the pot is hinged

^R Ca. 1915, a standard skate of gear was reduced to 300 fathoms (1,800 feet).



Figure 13: Adult male Dungeness crab caught in Glacier Bay (courtesy James Mackovjak)

and serves as a door through which crab are removed and bait is added. The door is secured with rubber straps and hooks. To prevent lost or abandoned pots from continuing to fish, regulations require that each pot be fitted with a panel that will biodegrade after a certain period of time. Each pot is tethered individually to a marker buoy. Dungeness crab pots are usually baited with “scent” bait held in a perforated container, as well as “hanging” bait. Herring and squid are preferred scent baits, while the heads of salmon or halibut are often used as hanging bait.^S Pots are set and usually allowed to “soak” for several days, depending on how good the fishing is. The best crab fishermen pay a lot of attention to small details: If a fisherman running 300 crab pots can figure out how to get one extra crab per week to walk in (or stay in) each crab pot, even at two pounds per crab the gain over a 2-month season is more than 5,000 pounds of crab. Depending on the market, that amount of crab would usually fetch between \$5,000 and \$10,000.

From the earliest years of the fishery until about 1970, most of the Dungeness crab production in Southeast Alaska was sold as canned meat. Dungeness crab today are sold

live, as “whole cooks,” cooked sections (basically half a crab, less the viscera and carapace), and (cooked) meat, either fresh or frozen. The average annual Southeast Alaska Dungeness crab harvest since 1960 has been 2.4 million pounds (live weight).

Current Dungeness crab management in Alaska is based on a “3-S” strategy. In lieu of harvest quotas, the catch is regulated by limiting seasons, and the sex and size of crab that may be kept. Additionally, the number of pots that can be fished by an individual fisherman is limited by a tiered system that ranges from 75 to 300 pots, in 75-pot increments. Under the management of the Alaska Department of Fish and Game, seasons in Southeast Alaska have diminished from being year-round to a two-month summer season (June 15 to August 15) followed by a two-month fall season (October 1 to November 30).^T About 70-80 percent of the catch is made during the summer season.¹²⁶ Only male Dungeness crab are legal to keep, and they currently must measure at least 6.5 inches across the carapace. Typically, a legal-sized Dungeness crab will be four years old and weigh nearly two pounds. He will have molted numerous times and been sexually mature for one or possibly two years.

^S At least during the 1950s and 1960s, clams from the beaches of the Porpoise Islands (in Icy Strait, east of Pleasant Island) were also used as scent bait by fishermen in the Glacier Bay area. An industrious individual dug the clams and kept them in floating live boxes, from which they were picked up by crab boats on the honor system.

^T In Glacier Bay, Dungeness crab fishermen often started “stacking” gear (taking it out of the water) around the first of November because of pan ice that can form in protected areas if the weather turned suddenly frigid.

Figure 14: Women processing Dungeness crab in Hoonah, Alaska, 1961 (courtesy Floyd Peterson)



The Dungeness crab fishery in Southeast Alaska for other than local use began about 1909, when live crab were packed with seaweed in wooden boxes holding nearly 200 crab and shipped by steamer to the Puget Sound area. The crab arrived in such poor condition that the business quickly switched to shipping whole cooked crab, which were said to arrive in excellent condition. Fishermen at Wrangell at the time were paid between 75 cents and \$1.10 per dozen, depending on the size.¹²⁷ The industry was very modest: in 1915 fewer than 15,000 pounds of Dungeness crab were shipped from Southeast Alaska.¹²⁸

The first Dungeness crab cannery in Alaska was established at Petersburg in 1921. Crab were canned in ½-pound cans of the sort used for tuna. Due to difficulties in marketing, production that first year was only 1,300 cases (48 ½-pound cans to the case). That same year the Dobbins Packing Co. constructed a floating crab cannery in Seattle and had it towed to Wrangell and then Petersburg.¹²⁹ Prior to the 1924 season, the cannery was towed to Hoonah where there was thought to be a “better supply of first-class crabs.”¹³⁰ Dungeness crab would be packed at Hoonah by a succession of operators almost continuously for nearly half a century. A substantial portion of the crab would come from Glacier Bay, and local Native women would

constitute the bulk of the work force (see Figure 14). Women who “meated” crab in the cannery were paid by the pound of meat produced. At times children were allowed in the cannery to help their mothers increase their poundage.¹³¹

The Dobbins Packing Co. seems to have failed after the 1925 season, largely due to competition from cheaper canned crab meat from Japan. The market later improved, however, and by 1932 O. H. Wood was preparing “crab products” at Hoonah.¹³² By 1934 six companies were handling crab in Southeast Alaska, among them Alaskan Glacier Sea Foods Co., which had canneries at Petersburg and Hoonah.¹³³ Alaskan Glacier Sea Foods was listed by the Bureau of Fisheries in 1935 as being one of the “more important operators in Southeast Alaska.”¹³⁴ (see Figure 15)

The first regulation of the Dungeness crab fishery in Alaska was in 1935, when the season was closed for two months during the summer to protect molting crab. Such crabs are thin-shelled and vulnerable to physical damage. As well, they contain less meat than hard-shelled crab of the same size.¹³⁵ In 1937, regulations were introduced that prohibited the taking of female Dungeness crab or soft-shelled crab or male crab measuring less than seven inches across the shell. The season in the Icy Strait District, which included Glacier Bay, was closed from June 15 to

Figure 15: Can label, Glacier Bay brand crab meat. (courtesy James Mackovjak)



August 1 to protect crab during what was thought to be a primary molting period.^{U 136}

Adam Greenwald, of Hoonah, recalled Dungeness crab being fished in Glacier Bay during the late 1930s. His father, Robert Greenwald, worked on the vessel *Westerly*, which tendered crab from Glacier Bay to O. H. Wood's floating crab cannery at Hoonah. Fishermen held their crab in floating live boxes anchored in the Beardslee Islands, Berg Bay and Sandy Cove, and the *Westerly* would periodically make a circuit of Glacier Bay to unload them. Each box would be lifted aboard and unloaded on deck. The pile of crab would then be covered with a tarp, which was kept wet with a saltwater deck hose until the *Westerly* arrived at Hoonah.¹³⁷

In the spring of 1942 the NPS received a letter from Morris Rafn of Wrangell. Rafn was interested in the permissibility of commercial fishing for Dungeness crab in Glacier Bay N.M., as well as the possibility of locating a floating crab cannery in the monument. Frank Been, superintendent of Mount McKinley N.P. and coordinating superintendent of Glacier Bay N.M., responded to Rafn's request. His advice regarding the permissibility of commercial fishing was unequivocal: "commercial fishing in the waters of the monument is permissible to the extent that is allowed by laws and regulations of the Fish and Wildlife Service of the Department of the Interior and of the War Department."^V Been advised him that the proposed cannery would require consideration, particularly its location, and the issuance of a special use permit with an expected annual fee of \$25. He ended the letter with: "I shall welcome the opportunity to be of further assistance to you."¹³⁸

The wartime need for increased food production no doubt colored Been's response to Rafn's inquiry. To respond otherwise would have been unpatriotic and crosswise with

policy. There seems to be no additional record of contact between Rafn and the NPS.

Government patrols of Glacier Bay were sporadic during World War II. Most were carried out by agents of the FWS, some of whom had been deputized as NPS rangers. A patrol in December 1944 noted a single crabber in the Beardslee Islands who was in the process of picking up his pots to terminate his season.¹³⁹ It was about this time that processors began switching from purchasing crab by the dozen to purchasing them by the pound. In 1949, there were a total of 1,435 crab pots employed in all of Southeast Alaska, all of which were likely used to catch Dungeness crab.¹⁴⁰ Nearly 50 years later, perhaps half again as many would be set in Glacier Bay alone.

^U The closure was revoked in the late 1950s.

^V The U.S. Army Corps of Engineers controlled the placement of structures, such as docks, in navigable waters.